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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,531	03/30/2001	Eric James Pressman	RD-26,589	1091

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GENERAL ELECTRIC COMPANY
CRD PATENT DOCKET ROOM 4A59
P O BOX 8
BUILDING K 1 SALAMONE
SCHENECTADY, NY 12301

EXAMINER

MURRAY, JOSEPH H

ART UNIT	PAPER NUMBER
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1626

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DATE MAILED: 06/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/822,531

Applicant(s)
Pressman et al

Examiner
Joseph Murray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

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Claims 1-56 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buysch et al, USPN 5856554, and Mizukami et al, USPN 5380907, or alternatively one of Pressman et al, USPN's 5760272, and 6114564.

The instant application claims a process for the production of diaryl carbonates, diphenyl carbonate, by the reaction of an aromatic hydroxy compound, a phenol, with carbon monoxide and oxygen in the presence of catalyst composition comprising a group 8, 9, or 10 metal, palladium, at least one salt, at least one metal co-catalyst, and optionally an activating solvent, and where the reaction is commenced at a temperature sufficient to keep the aromatic hydroxy compound molten. Further, the reaction is performed under various other conditions, such as when the temperature or pressure is increased, when the CO and O₂ is mixed, and when it is introduced, etc.

The prior art, Buysch et al, teaches a process for the production of diaryl carbonates by the reaction of an aromatic hydroxy compound with CO and O₂ in the presence of a catalyst

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composition comprising platinum, a metal co-catalyst, a quaternary salt, and a base, and at temperatures and pressures that are within the scope of that instantly claimed. Further, the reference teaches that it is advantageous to conduct the process under conditions where the starting hydroxy compound is in a melt with diaryl carbonate, corresponding to the hydroxy compound, see col 2 line 42 thru col 3 line 16 and examples 1-6. The Buysch et al reference does not teach that the activating solvent may be present, or the preference of palladium in the catalyst composition. However, the Mizukami et al reference, or alternatively one of the Pressman et al references do teach the preference of the metal catalyst as palladium and further teaches that the process is conducted in the presence of an activating compound, e.g. a solvent, that is within the scope of that taught in the instant application, that is in the Mizukami et al reference the activating solvent is a nitrile compound, in Pressman et al '272 it is N-methylpyrrolidone, and in Pressman et al '564 it is an ether.

The only difference of the combined references is that the Buysch et al reference teaches that DPC is present in the initial melt with the hydroxy compound. However, since this appears to be the only variation of the instant application from the bulk of the prior art, all other parameters being equal to that known in the art, it would have been obvious to combine the known art, and making slight variations in order to provide an optimized process. Further, given the results of the Buysch et al reference the results of the instant application show no unexpected results to indicate that the instant process is any better than the prior art, e.g. the prior art process produces yields of DPC that are 3 to 4 times that instantly taught.

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Therefore, one would have been motivated to combine the references to arrive at the instantly claimed process since the various catalyst compositions are well known in the art for the production of diaryl carbonates, and to provide an optimized process. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the references and to modify the prior art given the state of the art at the time the invention was made in order to attempt to optimize the process absent the showing of unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Joseph Murray whose telephone number is (703) 308-4540. The examiner can normally be reached on Monday-Friday from 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph McKane, can be reached at (703) 308-4537. The Unofficial fax phone number for this Group is (703) 308-7921. The Official fax phone numbers for this Group are (703) 308-4556 or 305-3592.

When filing a FAX in Technology Center 1600, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [joseph.mckane@uspto.gov]. All Internet e-mail communications will be made of

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record in the application file. PTO employees will not communicate with applicant via Internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-2286.

A handwritten signature in black ink, appearing to read "Solola", with a horizontal line drawn underneath it.

Taofiq Solola *Ph.D.*
Primary Patent Examiner
Group 1600

Joseph Murray

June 25, 2002